



SHALL WE ALL COMMIT SUICIDE?*

THE story of the human race is War. Except for brief and precarious interludes, there has never been peace in the world; and before history began, murderous strife was universal and unending. But up to the present time the means of destruction at the disposal of man have not kept pace with his ferocity. Reciprocal extermination was impossible in the Stone Age. One cannot do much with a clumsy club. Besides, men were so scarce and hid so well that they were hard to find. They fled so fast that they were hard to catch. Human legs could only cover a certain distance each day. With the best will in the world to destroy his species, each man was restricted to a very limited area of activity. It was impossible to make any effective progress on these lines. Meanwhile one had to live and hunt and sleep. So on the balance the life-forces kept a steady lead over the forces of death, and gradually tribes, villages, and governments were evolved.

The effort at destruction then entered upon a new phase. War became a collective enterprise. Roads were made which facilitated the movement of large numbers of men. Armies were organized. Many improvements in the apparatus of slaughter were devised. In particular the use of metal, and above all steel, for piercing and cutting human flesh, opened out a promising field. Bows and arrows, slings, chariots, horses, and elephants lent valuable assistance. But here again another set of checks began to operate. The governments were not sufficiently secure. The armies were liable to violent internal disagreements. It was extremely difficult to feed large numbers of men once they were concentrated, and consequently the efficiency of the efforts at destruction became fit-

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ful and was tremendously hampered by defective organization. Thus again there was a balance on the credit side of life. The world rolled forward, and human society entered upon a vaster and more complex age.

It was not until the dawn of the twentieth century of the Christian era that War really began to enter into its kingdom as the potential destroyer of the human race. The organization of mankind into great States and Empires and the rise of nations to full collective consciousness enabled enterprises of slaughter to be planned and executed upon a scale and with a perseverance never before imagined. All the noblest virtues of individuals were gathered together to strengthen the destructive capacity of the mass. Good finances, the resources of world-wide credit and trade, the accumulation of large capital reserves, made it possible to divert for considerable periods the energies of whole peoples to the task of Devastation. Democratic institutions gave expression to the will-power of millions. Education not only brought the course of the conflict within the comprehension of everyone, but rendered each person serviceable in a high degree for the purpose in hand. The Press afforded a means of unification and of mutual encouragement; Religion, having discreetly avoided conflict on the fundamental issues, offered its encouragements and consolations, through all its forms, impartially to all the combatants. Lastly, Science unfolded her treasures and her secrets to the desperate demands of men, and placed in their hands agencies and apparatus almost decisive in their character.

In consequence many novel features presented themselves. Instead of merely starving fortified towns, whole nations were methodically subjected to the process of reduction by famine. The entire population in one capacity or another took part in the War; all were equally the object of attack. The Air opened paths along which death and terror could be carried far behind the lines of the actual armies, to women, children, the aged, the sick, who in earlier struggles would perforce have been left untouched. Marvellous organizations of railroads, steamships, and motor vehicles placed and maintained tens of

millions of men continuously in action. Healing and surgery in their exquisite developments returned them again and again to the shambles. Nothing was wasted that could contribute to the process of waste. The last dying kick was brought into military utility.

But all that happened in the four years of the Great War was only a prelude to what was preparing for the fifth year. The campaign of the year 1919 would have witnessed an immense accession to the power of destruction. Had the Germans retained the morale to make good their retreat to the Rhine, they would have been assaulted in the summer of 1919 with forces and by methods incomparably more prodigious than any yet employed. Thousands of aeroplanes would have shattered their cities. Scores of thousands of cannon would have blasted their front. Arrangements were being made to carry simultaneously a quarter of a million men, together with all their requirements, continuously forward across country in mechanical vehicles moving ten or fifteen miles each day. Poison gases of incredible malignity, against which only a secret mask (which the Germans could not obtain in time) was proof, would have stifled all resistance and paralysed all life on the hostile front subjected to attack. No doubt the Germans too had their plans. But the hour of wrath had passed. The signal of relief was given, and the horrors of 1919 remain buried in the archives of the great antagonists.

The War stopped as suddenly and as universally as it had begun. The world lifted its head, surveyed the scene of ruin, and victors and vanquished alike drew breath. In a hundred laboratories, in a thousand arsenals, factories, and bureaus, men pulled themselves up with a jerk, turned from the task in which they had been absorbed. Their projects were put aside unfinished, unexecuted; but their knowledge was preserved; their data, calculations, and discoveries were hastily bundled together and docketed 'for future reference' by the War Offices in every country. The campaign of 1919 was never fought; but its ideas go marching along. In every Army they are being explored, elaborated, refined under the surface of peace, and

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should war come again to the world it is not with the weapons and agencies prepared for 1919 that it will be fought, but with developments and extensions of these which will be incomparably more formidable and fatal.

It is in these circumstances that we have entered upon that period of Exhaustion which has been described as Peace. It gives us at any rate an opportunity to consider the general situation. Certain sombre facts emerge solid, inexorable, like the shapes of mountains from drifting mist. It is established that henceforward whole populations will take part in war, all doing their utmost, all subjected to the fury of the enemy. It is established that nations who believe their life is at stake will not be restrained from using any means to secure their existence. It is probable—nay, certain—that among the means which will next time be at their disposal will be agencies and processes of destruction wholesale, unlimited, and perhaps, once launched, uncontrollable.

Mankind has never been in this position before. Without having improved appreciably in virtue or enjoying wiser guidance, it has got into its hands for the first time the tools by which it can unfailingly accomplish its own extermination. That is the point in human destinies to which all the glories and toils of men have at last led them. They would do well to pause and ponder upon their new responsibilities. Death stands at attention, obedient, expectant, ready to serve, ready to shear away the peoples *en masse*; ready, if called on, to pulverize, without hope of repair, what is left of civilization. He awaits only the word of command, He awaits it from a frail, bewildered being, long his victim, now—for one occasion only—his Master.

Let it not be thought for a moment that the danger of another explosion in Europe is passed. For the time being the stupor and the collapse which followed the World War ensure a sullen passivity, and the horror of war, its carnage and its tyrannies, has sunk into the soul, has dominated the mind, of every class in every race. But the causes of war have been in no way removed; indeed they are in some respects aggravated

by the so-called Peace Treaties and the reactions following thereupon. Two mighty branches of the European family will never rest content with their existing situation. Russia, stripped of her Baltic Provinces, will, as the years pass by, brood incessantly upon the wars of Peter the Great. From one end of Germany to the other an intense hatred of France unites the whole population. The enormous contingents of German youth growing to military manhood year by year are inspired by the fiercest sentiments, and the soul of Germany smoulders with dreams of a War of Liberation or Revenge. These ideas are restrained at the present moment only by physical impotence. France is armed to the teeth. Germany has been to a great extent disarmed and her military system broken up. The French hope to preserve this situation by their technical military apparatus, by their shield of fortresses, by their black troops, and by a system of alliances with the smaller States of Europe; and for the present at any rate overwhelming force is on their side. But physical force alone, unsustained by world opinion, affords no durable foundation for security. Germany is a far stronger entity than France, and cannot be kept in permanent subjugation.

'Wars,' said a distinguished American to me some years ago, 'are fought with Steel: weapons may change, but Steel remains the core of all modern warfare. France has got the Steel of Europe, and Germany has lost it. Here, at any rate, is an element of permanency.' 'Are you sure,' I asked, 'that the wars of the future will be fought with Steel?' A few weeks later I talked with a German. 'What about Aluminium?' he replied. 'Some think,' he said, 'that the next war will be fought with Electricity.' And on this a vista opens out of electrical rays which could paralyse the engines of a motor-car, could claw down aeroplanes from the sky, and conceivably be made destructive of human life or human vision. Then there are Explosives. Have we reached the end? Has Science turned its last page on them? May there not be methods of using explosive energy incomparably more intense than anything heretofore discovered? Might not a bomb no bigger than an orange

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be found to possess a secret power to destroy a whole block of buildings—nay, to concentrate the force of a thousand tons of cordite and blast a township at a stroke? Could not explosives even of the existing type be guided automatically in flying machines by wireless or other rays, without a human pilot, in ceaseless procession upon a hostile city, arsenal, camp, or dockyard?

As for Poison Gas and Chemical Warfare in all its forms, only the first chapter has been written of a terrible book. Certainly every one of these new avenues to destruction is being studied on both sides of the Rhine, with all the science and patience of which man is capable. And why should it be supposed that these resources will be limited to Inorganic Chemistry? A study of Disease—of Pestilences methodically prepared and deliberately launched upon man and beast—is certainly being pursued in the laboratories of more than one great country. Blight to destroy crops, Anthrax to slay horses and cattle, Plague to poison not armies only but whole districts—such are the lines along which military science is remorselessly advancing.

It is evident that whereas an equally-contested war under such conditions might work the ruin of the world and cause an immeasurable diminution of the human race, the possession by one side of some overwhelming scientific advantage would lead to the complete enslavement of the unwary party. Not only are the powers now in the hands of man capable of destroying the life of nations, but for the first time they afford to one group of civilized men the opportunity of reducing their opponents to absolute helplessness.

In barbarous times superior martial virtues—physical strength, courage, skill, discipline—were required to secure such a supremacy; and in the hard evolution of mankind the best and fittest stocks came to the fore. But no such saving guarantee exists to-day. There is no reason why a base, degenerate, immoral race should not make an enemy far above them in quality, the prostrate subject of their caprice or tyranny, simply because they happened to be possessed at a given

moment of some new death-dealing or terror-working process and were ruthless in its employment. The liberties of men are no longer to be guarded by their natural qualities, but by their dodges; and superior virtue and valour may fall an easy prey to the latest diabolical trick.

In the sombre paths of destructive science there was one new turning-point which seemed to promise a corrective to these mortal tendencies. It might have been hoped that the electro-magnetic waves would in certain scales be found capable of detonating explosives of all kinds from a great distance. Were such a process discovered in time to become common property, War would in important respects return again to the crude but healthy limits of the barbarous ages. The sword, the spear, the bludgeon, and above all *the fighting man*, would regain at a bound their old sovereignty. But it is depressing to learn that the categories into which these rays are divided are now so fully explored that there is not much expectation of this. All the hideousness of the Explosive era will continue; and to it will surely be added the gruesome complications of Poison and of Pestilence scientifically applied.

Such, then, is the peril with which mankind menaces itself. Means of destruction incalculable in their effects, wholesale and frightful in their character, and unrelated to any form of human merit: the march of Science unfolding ever more appalling possibilities; and the fires of hatred burning deep in the hearts of some of the greatest peoples of the world, fanned by continual provocation and unceasing fear, and fed by the deepest sense of national wrong or national danger! On the other hand, there is the blessed respite of Exhaustion, offering to the nations a final chance to control their destinies and avert what may well be a general doom. Surely if a sense of self-preservation still exists among men, if the will to live resides not merely in individuals or nations but in humanity as a whole, the prevention of the supreme catastrophe ought to be the paramount object of all endeavour.

Against the gathering but still distant tempest the League of Nations, deserted by the United States, scorned by Soviet

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Russia, flouted by Italy, distrusted equally by France and Germany, raises feebly but faithfully its standards of sanity and hope. Its structure, airy and unsubstantial, framed of shining but too often visionary idealism, is in its present form incapable of guarding the world from its dangers and of protecting mankind from itself. Yet it is through the League of Nations alone that the path to safety and salvation can be found. To sustain and aid the League of Nations is the duty of all. To reinforce it and bring it into vital and practical relation with actual world-politics by sincere agreements and understanding between the great Powers, between the leading races, should be the first aim of all who wish to spare their children torments and disasters compared with which those we have suffered will be but a pale preliminary.



MASS EFFECTS IN MODERN LIFE

Is the march of events ordered and guided by eminent men; or do our leaders merely fall into their places at the heads of the moving columns? Is human progress the result of the resolves and deeds of individuals, or are these resolves and deeds only the outcome of time and circumstance? Is history the chronicle of famous men and women, or only of their responses to the tides, tendencies and opportunities of their age? Do we owe the ideals and wisdom that make our world to the glorious few, or to the patient anonymous innumerable many? The question has only to be posed to be answered. We have but to let the mind's eye skim back over the story of nations, indeed to review the experience of our own small lives, to observe the decisive part which accident and chance play at every moment. If this or that had been otherwise, if this instruction had not been given, if that blow had not been struck, if that horse had not stumbled, if we had not met that woman, or missed or caught that train, the whole course of our lives would have been changed; and with our lives the lives of others, until gradually, in ever-widening circles, the movement of the world itself would have been affected. And if this be true of the daily experience of ordinary average people, how much more potent must be the deflection which the Master Teachers—Thinkers, Discoverers, Commanders—have imparted at every stage. True, they required their background, their atmosphere, their opportunity; but these were also the leverages which magnified their power. I have no hesitation in ranging myself with those who view the past history of the world mainly as the tale of exceptional human beings, whose thoughts, actions, qualities, virtues, triumphs, weaknesses and crimes have dominated the fortunes of the race. But we may now ask ourselves whether powerful changes

are not coming to pass, are not already in progress or indeed far advanced. Is not mankind already escaping from the control of individuals? Are not our affairs increasingly being settled by mass processes? Are not modern conditions—at any rate throughout the English-speaking communities—hostile to the development of outstanding personalities, and to their influence upon events: and lastly if this be true, will it be for our greater good and glory? These questions merit some examination from thoughtful people.

Certainly we see around us to-day a marked lack of individual leadership. The late Mr. John Morley, statesman and philanthropist, man of letters and man of affairs, some years ago towards the close of his life delivered an oration in which he drew attention to the decline in the personal eminence of the leaders in almost all the important spheres of thought and art. He contrasted the heads of the great professions in the early twentieth century with those who had shone in the mid-Victorian era. He spoke of 'the vacant Thrones' in Philosophy, History, Economics, Oratory, Statecraft, Poetry, Literature, Painting, Sculpture, and Music, which stood on every side. He pointed—as far as possible without offence—to the array of blameless mediocrities, who strutted conscientiously around the seats of the mighty decked in their discarded mantles and insignia. The pith and justice of these reflections were unwelcome, but not to be denied. They are no less applicable to the United States. With every natural wish to be complimentary to our own age and generation, with every warning against 'singing the praises of former times', it is difficult to marshal to-day in any part of the English-speaking world an assembly of notables, who either in distinction or achievement can compare with those to whom our grandfathers so gladly paid attention and tribute.

It must be admitted that in one great sphere the thrones are neither vacant nor occupied by pygmies. Science in all its forms surpasses itself every year. The body of knowledge ever accumulating is immediately interchanged and the quality and fidelity of the research never flags. But here again the mass

effect largely suppresses the individual achievement. The throne is occupied; but by a throng.

In part we are conscious of the enormous processes of collectivization which are at work among us. We have long seen the old family business, where the master was in direct personal touch with his workmen, swept out of existence or absorbed by powerful companies, which in their turn are swallowed by mammoth trusts. We have found in these processes, whatever hardships they may have caused to individuals, immense economic and social advantages. The magic of mass production has carried all before it. The public have a cheaper and even better article or a superior service, the workmen have better wages and greater security.

The results upon national character and psychology are more questionable. We are witnessing a great diminution in the number of independent people who had some standing of their own, albeit a small one, and who if they conducted their affairs with reasonable prudence could 'live by no man's leave underneath the law.' They may be better off as the salaried officials of great corporations; but they have lost in forethought, in initiative, in contrivance, in freedom and in effective civic status.

These instances are but typical of what is taking place in almost every sphere of modern industrial life, and of what must take place with remorseless persistency, if we are to enjoy the material blessings which scientific and organized civilization is ready to bestow in measureless abundance.

In part again these changes are unconscious. Public opinion is formed and expressed by machinery. The newspapers do an immense amount of thinking for the average man and woman. In fact they supply them with such a continuous stream of standardized opinion, borne along upon an equally inexhaustible flood of news and sensation, collected from every part of the world every hour of the day, that there is neither the need nor the leisure for personal reflection. All this is but a part of a tremendous educating process. But it is an education which passes in at one ear and out at the

other. It is an education at once universal and superficial. It produces enormous numbers of standardized citizens, all equipped with regulation opinions, prejudices and sentiments, according to their class or party. It may eventually lead to a reasonable, urbane and highly-serviceable society. It may draw in its wake a mass culture enjoyed by countless millions, to whom such pleasures were formerly unknown. We must not forget the enormous circulations at cheap prices of the greatest books of the world, which is a feature of modern life in civilized countries, and nowhere more than in the United States. But this great diffusion of knowledge, information and light reading of all kinds may, while it opens new pleasures to humanity and appreciably raises the general level of intelligence, be destructive of those conditions of personal stress and mental effort to which the masterpieces of the human mind are due.

It is a curious fact that the Russian Bolsheviks in carrying by compulsion mass conceptions to their utmost extreme seem to have lost not only the guidance of great personalities, but even the economic fertility of the process itself. The Communist theme aims at universal standardization. The individual becomes a function: the community is alone of interest: mass thoughts dictated and propagated by the rulers are the only thoughts deemed respectable. No one is to think of himself as an immortal spirit, clothed in the flesh, but sovereign, unique, indestructible. No one is to think of himself even as that harmonious integrity of mind, soul and body, which, take it as you will, may claim to be 'the Lord of Creation.' Sub-human goals and ideals are set before these Asiatic millions. The Beehive? No, for there must be no queen and no honey, or at least no honey for others. In Soviet Russia we have a society which seeks to model itself upon the Ant. There is not one single social or economic principle or concept in the philosophy of the Russian Bolshevik which has not been realized, carried into action, and enshrined in immutable laws a million years ago by the White Ant.

But human nature is more intractable than ant-nature.

The explosive variations of its phenomena disturb the smooth working out of the laws and forces which have subjugated the White Ant. It is at once the safeguard and the glory of mankind that they are easy to lead and hard to drive. So the Bolsheviks, having attempted by tyranny and by terror to establish the most complete form of mass life and collectivism of which history bears record, have not only lost the distinction of individuals, but have not even made the nationalization of life and industry pay. We have not much to learn from them, except what to avoid.

Mass effects and their reactions are of course more pronounced in the leading nations than in more backward and primitive communities. In Great Britain, the United States, Germany, and France, the decline in personal pre-eminence is much more plainly visible than in societies which have less wealth, less power, less freedom. The great emancipated nations seem to have become largely independent of famous guides and guardians. They no longer rely upon the Hero, the Commander, or the Teacher as they did in bygone rugged ages, or as the less advanced peoples do to-day. They wend their way ponderously, unthinkingly, blindly, but nevertheless surely and irresistibly towards goals which are ill-defined and yet magnetic. Is it then true that civilization and democracy, when sufficiently developed, will increasingly dispense with personal direction: that they mean to find their own way for themselves; and that they are capable of finding the right way? Or are they already going wrong? Are they off the track? Have they quitted the stern, narrow high-roads which alone lead to glorious destinies and survival? Is what we now see in the leading democracies merely a diffusion and squandering of the accumulated wisdom and treasure of the past? Are we blundering on together in myriad companies, like innumerable swarms of locusts, chirping and devouring towards the salt sea, or towards some vast incinerator of shams and fallacies? Or have we for the first time reached those uplands whence all of us, even the humblest and silliest equally with the best, can discern for ourselves the

beacon lights? Surely such an enquiry deserves an idle hour.

In no field of man's activities is the tendency to mass effects and the suppression of the individual more evident than in modern war. The Armageddon through which we have recently passed displays the almost complete elimination of personal guidance. It was the largest and the latest of all wars. It was also the worst, the most destructive, and in many ways the most ruthless. Now that it is over we look back, and with minute and searching care seek to find its criminals and its heroes. Where are they? Where are the villains who made the War? Where are the deliverers who ended it? Facts without number, growing libraries, clouds of contemporary witnesses, methods of assembling and analysing evidence never before possessed or used among men are at our disposal. The quest is keen. We ought to know; we mean to know. Smarting under our wounds, enraged by our injuries, amazed by our wonderful exertions and achievements, conscious of our authority, we demand to know the truth, and to fix the responsibilities. Our halters and our laurels are ready and abundant.

But what is the answer? There is no answer. On the one hand, the accusations eagerly pressed now against this man or Government or nation, now against that, seem to dissipate themselves as the indictment proceeds. On the other, as the eager claimants for the honour of being the man, the Government, the nation THAT ACTUALLY WON THE WAR multiply and as their self-advocacy becomes more voluble, more strident, we feel less and less convinced. The Muse of History to whom we all so confidently appeal has become a Sphinx. A sad, half-mocking smile flickers on her stone war-scarred lineaments. While we gaze, we feel that the day will never come when we shall learn the answer for which we have clamoured. Meanwhile the halters rot and the laurels fade. Both the making and the winning of the most terrible and the most recent of earthly struggles seems to have been a co-operative affair!

Modern conditions do not lend themselves to the production of the heroic or super-dominant type. On the whole

they are fatal to pose. The robes, the wigs, the ceremonies, the grades that fortified the public men and ruling functionaries of former centuries have fallen into disuse in every country. Even 'the Divinity that doth hedge a King' is considered out of place except on purely official occasions. Sovereigns are admired for their free and easy manners, their readiness to mingle with all classes, their matter-of-fact work-a-day air, their dislike of pomp and ritual. The Minister or President at the head of some immense sphere of business, whose practical decisions from hour to hour settle so many important things, is no longer a figure of mystery and awe. On the contrary he is looked upon, and what is more important for our present purpose, looks upon himself, as quite an ordinary fellow, who happens to be charged for the time being with a peculiar kind of large-scale work. He hustles along with the crowd in the public conveyances, or attired in 'plus fours' waits his turn upon the links. All this is very jolly, and a refreshing contrast to the ridiculous airs and graces of the periwigged potentates of other generations. The question is whether the sense of leadership, and the commanding attitude towards men and affairs, are likely to arise from such simple and unpretentious customs and habits of mind: and further whether our public affairs will now for the future run on quite happily without leaders who by their training and situation, no less than by their abilities, feel themselves to be uplifted above the general mass.

The intense light of war illuminates as usual this topic more clearly than the comfortable humdrum glow of peace. We see the modern commander entirely divorced from the heroic aspect by the physical conditions which have overwhelmed his art. No longer will Hannibal and Cæsar, Turenne and Marlborough, Frederick and Napoleon, sit their horses on the battlefield and by their words and gestures direct and dominate between dawn and dusk the course of a supreme event. No longer will their fame and presence cheer their struggling soldiers. No longer will they share their perils, rekindle their spirits and restore the day. They will not be

there. They have been banished from the fighting scene, together with their plumes, standards and breast-plates. The lion-hearted warrior, whose keen eye detected the weakness in the foeman's line, whose resolve outlasted all the strains of battle, whose mere arrival at some critical point turned the tide of conflict, has disappeared. Instead our Generals are to be found on the day of the battle at their desks in their offices fifty or sixty miles from the front, anxiously listening to the trickle of the telephone for all the world as if they were speculators with large holdings when the market is disturbed.

All very right and worthy. They are at their posts. Where else indeed should they be? The tape-machine ticks are recording in blood-red ink that railways are down or utilities up, that a bank has broken here, and a great fortune has been captured there. Calm sits the General—he is a high-souled speculator. He is experienced in finance. He has survived many market crashes. His reserves are ample and mobile. He watches for the proper moment, or proper day—for battles now last for months—and then launches them to the attack. He is a fine tactician, and knows the wiles of bull and bear, of attack and defence to a nicety. His commands are uttered with decision. Sell fifty thousand of this. Buy at the market a hundred thousand of that. Ah! No, we are on the wrong track. It is not shares he is dealing in. It is the lives of scores of thousands of men. To look at him at work in his office you would never have believed that he was fighting a battle in command of armies ten times as large and a hundred times as powerful as any that Napoleon led. We must praise him if he does his work well, if he sends the right messages, and spends the right troops, and buys the best positions. But it is hard to feel that he is the hero. No; he is not the hero. He is the manager of a stock-market, or a stock-yard.

The obliteration of the personal factor in war, the stripping from high commanders of all the drama of the battlefield, the reducing of their highest function to pure office work, will have profound effects upon sentiment and opinion.

Hitherto the great captain has been rightly revered as the genius who by the firmness of his character, and by the mysterious harmonies and inspirations of his nature, could rule the storm. He did it himself: and no one else could do it so well. He conquered there and then. Often he fell beneath the bolts and the balls, saviour of his native land. Now, however illogical it may seem and even unjust, his glamour and honours will not readily descend upon our calculating friend at the telephone. This worthy must assuredly be rewarded as a useful citizen, and a faithful perspicacious public servant; but not as a hero. The heroes of modern war lie out in the cratered fields, mangled, stifled, scarred; and there are too many of them for exceptional honours. It is mass suffering, mass sacrifice, mass victory. The glory which plays upon the immense scenes of carnage is diffused. No more the blaze of triumph irradiates the helmets of the chiefs. There is only the pale light of a rainy dawn by which forty miles of batteries recommence their fire, and another score of divisions flounder to their death in mud and poison gas.

That was the last war. The wars of the future will be even less romantic and picturesque. They will apparently be the wars not of armies but of whole populations. Men, women and children, old and feeble, soldiers and civilians, sick and wounded—all will be exposed—so we are told—to aerial bombardment, that is to say to mass destruction by lethal vapour. There will not be much glory for the general in this process. My gardener last spring exterminated seven wasp's nests. He did his work most efficiently. He chose the right poison. He measured the exact amount. He put it stealthily in the right place, at the right time. The entire communities were destroyed. Not even one wasp got near enough to sting him. It was his duty and he performed it well. But I am not going to regard him as a hero.

So when some spectacled 'brass hat' of a future world-agony has extinguished some London or Paris, some Tokio or San Francisco, by pressing a button, or putting his initials neatly at the bottom of a piece of foolscap, he will have to

wait a long time for fame and glory. Even the flashlights of the photographers in the national Ministry of Propaganda will be only a partial compensation. Still our Commander-in-Chief may be a man of exemplary character, most painstaking and thorough in his profession. He may only be doing what in all the circumstances some one or other would have to do. It seems rather hard that he should receive none of the glory which in former ages would have been the attribute of his office and the consequence of his success. But this is one of the mass effects of modern life and science. He will have to put up with it.

From this will follow blessed reactions. The idea of war will become loathsome to humanity. The military leader will cease to be a figure of romance and fame. Youth will no longer be attracted to such careers. Poets will not sing nor sculptors chisel the deeds of conquerors. It may well be that the chemists will carry off what credit can be found. The budding Napoleons will go into business, and the civilization of the world will stand on a surer basis. We need not waste our tears on the mass effects in war. Let us return to those of peace.

Can modern communities do without great men? Can they dispense with hero-worship? Can they provide a larger wisdom, a nobler sentiment, a more vigorous action, by collective processes, than were ever got from the Titans? Can nations remain healthy, can all nations draw together, in a world whose brightest stars are film stars and whose gods are sitting in the gallery? Can the spirit of man emit the vital spark by machinery? Will the new problems of successive generations be solved successfully by 'the common sense of most'; by party caucuses; by Assemblies whose babble is no longer heeded? Or will there be some big hitch in the forward march of mankind, some intolerable block in the traffic, some vain wandering into the wilderness; and will not then the need for a personal chief become the mass desire?

We see a restlessness around us already. The cry of 'Measures, not Men' no longer commands universal sympathy. There is a sense of vacancy and of fatuity, of incompleteness.

We miss our giants. We are sorry that their age is past. The general levels of intelligence and of knowledge have risen. We are upon a high plateau. A peak of 10,000 feet above the old sea-level is scarcely noticeable. There are so many such eminences that we hardly bother about them. The region seems healthy; but the scenery is unimpressive. We mourn the towering grandeur which surrounded and cheered our long painful ascent. Ah! if we could only find some new enormous berg rising towards the heavens as high above our plateau as those old mountains down below rose above the plains and marshes! We want a monarch peak, with base enormous, whose summit is for ever hidden from our eyes by clouds, and down whose precipices cataracts of sparkling waters thunder. Unhappily the democratic plateau or platform does not keep that article in stock. Perhaps something like it might be worked up by playing spot-lights upon pillars of smoke or gas, and using the loud-speaker apparatus. But we soon see through these pretences.

No, we must take the loss with the gain. On the uplands there are no fine peaks. We must do without them while we stay there. Of course we could always if we wished go down again into the plains and valleys out of which we have climbed. We may even wander thither unwittingly. We may slide there. We may be pushed there. There are still many powerful nations dwelling at these lower levels—some contentedly—some even proudly. They often declare that life in the valleys is preferable. There is, they say, more variety, more beauty, more grace, more dignity—more true health and fertility than upon the arid highlands. They say this middle situation is better suited to human nature. The arts flourish there, and science need not be absent. Moreover it is pleasing to look back over the plains and morasses through which our path has lain in the past, and remember in tradition the great years of pilgrimage. Then they point to the frowning crag, their venerated 'El Capitan' or 'Il Duce,' casting its majestic shadow in the evening light; and ask whether we have anything like that up there. We certainly have not.

FIFTY YEARS HENCE

THE great mass of human beings, absorbed in the toils, cares and activities of life, are only dimly conscious of the pace at which mankind has begun to travel. We look back a hundred years, and see that great changes have taken place. We look back fifty years, and see that the speed is constantly quickening. This present century has witnessed an enormous revolution in material things, in scientific appliances, in political institutions, in manners and customs. The greatest change of all is the least perceptible by individuals; it is the far greater numbers which in every civilized country participate in the fuller life of man. 'In those days,' said Disraeli, writing at the beginning of the nineteenth century, 'England was for the few and for the very few.' 'The twice two thousand for whom,' wrote Byron, 'the world is made' have given place to many millions for whom existence has become larger, safer, more varied, more full of hope and choice. In the United States scores of millions have lifted themselves above primary necessities and comforts, and aspire to culture—at least for their children. Europe, though stunned and lacerated by Armageddon, presents a similar if less general advance. We all take the modern conveniences and facilities as they are offered to us without being grateful or consciously happier. But we simply could not live, if they were taken away. We assume that progress will be constant. 'This 'ere progress,' Mr. Wells makes one of his characters remark, 'keeps going on. It's wonderful 'ow it keeps going on.' It is also very fortunate, for if it stopped or were reversed, there would be the catastrophe of unimaginable horror. Mankind has gone too far to go back, and is moving too fast to stop. There are too many people maintained not merely in comfort but in existence by processes unknown a century ago,

for us to afford even a temporary check, still less a general setback, without experiencing calamity in its most frightful form.

When we look back beyond a hundred years over the long trails of history, we see immediately why the age we live in differs from all other ages in human annals. Mankind has sometimes travelled forwards and sometimes backwards, or has stood still even for hundreds of years. It remained stationary in India and in China for thousands of years. What is it that has produced this new prodigious speed of man? Science is the cause. Her once feeble vanguards, often trampled down, often perishing in isolation, have now become a vast organized united class-conscious army marching forward upon all the fronts towards objectives none may measure or define. It is a proud, ambitious army which cares nothing for all the laws that men have made; nothing for their most time-honoured customs, or most dearly-cherished beliefs, or deepest instincts. It is this power called Science which has laid hold of us, conscripted us into its regiments and batteries, set us to work upon its highways and in its arsenals; rewarded us for our services, healed us when we were wounded, trained us when we were young, pensioned us when we were worn out. None of the generations of men before the last two or three were ever gripped for good or ill and handled like this.

Man in the earliest stages lived alone and avoided his neighbours with as much anxiety and probably as much reason as he avoided the fierce flesh-eating beasts that shared his forests. With the introduction of domestic animals the advantages of co-operation and the division of labour became manifest. In the neolithic times when cereals were produced and agriculture developed, the bleak hungry period whilst the seeds were germinating beneath the soil involved some form of capitalism, and the recognition of those special rights of landed proprietors the traces of which are still visible in our legislation. Each stage involved new problems legal, sociological and moral. But progress only crawled, and often rested for a thousand years or so.

FIFTY YEARS HENCE

The two ribbon States in the valley of the Nile and the Euphrates produced civilizations as full of pomp and circumstance and more stable than any the world has ever known. Their autocracies and hierarchies were founded upon the control and distribution of water and corn. The rulers held the people in an efficiency of despotism never equalled till Soviet Russia was born. They had only to cut off or stint the water in the canals to starve or subjugate rebellious provinces. This, apart from their granaries, gave them powers at once as irresistible and as capable of intimate regulation as the control of all food supplies gives to the Bolshevik commissars. Safe from internal trouble, they were vulnerable only to external attack. But in these states man had not learnt to catalyse the forces of nature. The maximum power available was the sum of the muscular efforts of all the inhabitants. Later empires, scarcely less imposing but far less stable, rose and fell. In the methods of production and communication, in the modes of getting food and exchanging goods, there was less change between the time of Sargon and the time of Louis XIV than there has been between the accession of Queen Victoria and the present day. Darius could probably send a message from Susa to Sardis faster than Philip II could transmit an order from Madrid to Brussels. Sir Robert Peel, summoned in 1841 from Rome to form a government in London, took the same time as the Emperor Vespasian when he had to hasten to his province of Britain. The bathrooms of the palaces of Minos were superior to those of Versailles. A priest from Thebes would probably have felt more at home at the Council of Trent two thousand years after Thebes had vanished, than Sir Isaac Newton at a modern undergraduate physical society, or George Stephenson in the Institute of Electrical Engineers. The changes have been so sudden and so gigantic that no period in history can be compared with the last century. The past no longer enables us even dimly to measure the future.

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THOUGHTS AND ADVENTURES

The most wonderful of all modern prophecies is found in Tennyson's 'Locksley Hall':

'For I dipt into the future, far as human eye could see,
Saw the Vision of the world, and all the wonder that would be;
Saw the heavens fill with commerce, argosies of magic sails,
Pilots of the purple twilight, dropping down with costly bales;
Heard the heavens fill with shouting, and there rain'd a ghastly
dew
From the nation's airy navies grappling in the central blue;
Far along the world-wide whisper of the south-wind rushing
warm,
With the standards of the peoples plunging thro' the thunder-
storm;
Till the war-drum throb'd no longer, and the battle-flags were
furl'd
In the Parliament of man, the Federation of the world.

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Slowly comes a hungry people, as a lion creeping nigher,
Glares at one that nods and winks behind a slowly-dying
fire.'

These six couplets of prediction, written eighty years ago, have already been fulfilled. The conquest of the air for commerce and war, the League of Nations, the Communist movement—all divined in their true sequence by the great Victorian—all now already in the history-books and stirring the world around us to-day! We may search the Scriptures in vain for such precise and swiftly-vindicated forecasts of the future. Jeremiah and Isaiah dealt in dark and cryptic parables pointing to remote events and capable of many varied interpretations from time to time. A Judge, a Prophet, a Redeemer would arise to save his chosen People; and from age to age the Jews asked, disputing, 'Art thou he that should come or do we look for another?' But 'Locksley Hall' contains an exact foretelling of stupendous events, which many of those who

knew the writer lived to see and endure! The dawn of the Victorian era opened the new period of man; and the genius of the poet pierced the veil of the future.

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There are two processes which we adopt consciously or unconsciously when we try to prophesy. We can seek a period in the past whose conditions resemble as closely as possible those of our day, and presume that the sequel to that period will, save for some minor alterations, be repeated. Secondly, we can survey the general course of development in our immediate past, and endeavour to prolong it into the near future. The first is the method of the historian; the second that of the scientist. Only the second is open to us now, and this only in a partial sphere. By observing all that Science has achieved in modern times, and the knowledge and power now in her possession, we can predict with some assurance the inventions and discoveries which will govern our future. We can but guess, peering through a glass darkly, what reactions these discoveries and their applications will produce upon the habits, the outlook and the spirit of men.

Whereas formerly the utmost power that man could guide and control was a team of horses, or a galleyful of slaves; or possibly, if they could be sufficiently drilled and harnessed, a gang of labourers like the Israelites in Egypt: it is to-day already possible to control accurately from the bridge of a battle cruiser all the power of hundreds of thousands of men: or to set off with one finger a mine capable in an instant of destroying the work of thousands of man-years. These changes are due to the substitution of molecular energy for muscular energy, and its direction and control by an elaborate, beautifully-perfected apparatus. These immense new sources of power, and the fact that they can be wielded by a single individual, have made possible novel methods of mining and metallurgy, new modes of transport and undreamed-of machinery. These in their turn enable the molecular sources of power to be extended and used more efficiently. They facilitate also the

improvement of ancient methods. They substitute the hundred-thousand-kilowatt turbo-generators at Niagara for the mill-wheel of our fore-fathers. Each invention acted and reacted on other inventions, and with ever-growing rapidity that vast structure of technical achievement was raised which separates the civilization of to-day from all that the past has known.

There is no doubt that this evolution will continue at an increasing rate. We know enough to be sure that the scientific achievements of the next fifty years will be far greater, more rapid and more surprising, than those we have already experienced. The slide-lathe enabled machines of precision to be made, and the power of steam rushed out upon the world. And through the steam-clouds flashed the dazzling lightning of electricity. But this is only a beginning. High authorities tell us that new sources of power, vastly more important than any we yet know, will surely be discovered. Nuclear energy is incomparably greater than the molecular energy which we use to-day. The coal a man can get in a day can easily do five hundred times as much work as the man himself. Nuclear energy is at least one million times more powerful still. If the hydrogen atoms in a pound of water could be prevailed upon to combine together and form helium, they would suffice to drive a thousand horse-power engine for a whole year. If the electrons—those tiny planets of the atomic systems—were induced to combine with the nuclei in the hydrogen the horse-power liberated would be 120 times greater still. There is no question among scientists that this gigantic source of energy exists. What is lacking is the match to set the bonfire alight, or it may be the detonator to cause the dynamite to explode. The Scientists are looking for this.

The discovery and control of such sources of power would cause changes in human affairs incomparably greater than those produced by the steam-engine four generations ago. Schemes of cosmic magnitude would become feasible. Geography and climate would obey our orders. Fifty thousand tons of water, the amount displaced by the *Berengaria*, would, if

exploited as described, suffice to shift Ireland to the middle of the Atlantic. The amount of rain falling yearly upon the Epsom race-course would be enough to thaw all the ice at the Arctic and Antarctic poles. The changing of one element into another by means of temperatures and pressures would be far beyond our present reach, would transform beyond all description our standards of values. Materials thirty times stronger than the best steel would create engines fit to bridle the new forms of power. Communications and transport by land, water and air would take unimaginable forms, if, as is in principle possible, we could make an engine of 600 horsepower weighing 20 lb. and carrying fuel for a thousand hours in a tank the size of a fountain-pen. Wireless telephones and television, following naturally upon their present path of development, would enable their owner to connect up with any room similarly installed, and hear and take part in the conversation as well as if he put his head in through the window. The congregation of men in cities would become superfluous. It would rarely be necessary to call in person on any but the most intimate friends, but if so, excessively rapid means of communication would be at hand. There would be no more object in living in the same city with one's neighbour than there is to-day in living with him in the same house. The cities and the countryside would become indistinguishable. Every home would have its garden and its glade.

Up till recent times the production of food has been the prime struggle of man. That war is won. There is no doubt that the civilized races can produce or procure all the food they require. Indeed some of the problems which vex us to-day are due to the production of wheat by white men having exceeded their own needs, before yellow men, brown men and black men have learnt to demand and become able to purchase a diet superior to rice. But food is at present obtained almost entirely from the energy of the sunlight. The radiation from the sun produces from the carbonic acid in the air more or less complicated carbon compounds which give us our plants and vegetables. We use the latent chemical energy of

these to keep our bodies warm, we convert it into muscular effort. We employ it in the complicated processes of digestion to repair and replace the wasted cells of our bodies. Many people of course prefer food in what the vegetarians call 'the second-hand form', i.e. after it has been digested and converted into meat for us by domestic animals kept for this purpose. In all these processes however ninety-nine parts of the solar energy are wasted for every part used.

Even without the new sources of power great improvements are probable here. Microbes which at present convert the nitrogen of the air into the proteins by which animals live, will be fostered and made to work under controlled conditions, just as yeast is now. New strains of microbes will be developed and made to do a great deal of our chemistry for us. With a greater knowledge of what are called hormones, i.e. the chemical messengers in our blood, it will be possible to control growth. We shall escape the absurdity of growing a whole chicken in order to eat the breast or wing, by growing these parts separately under a suitable medium. Synthetic food will, of course, also be used in the future. Nor need the pleasures of the table be banished. That gloomy Utopia of tabloid meals need never be invaded. The new foods will from the outset be practically indistinguishable from the natural products, and any changes will be so gradual as to escape observation.

If the gigantic new sources of power become available, food will be produced without recourse to sunlight. Vast cellars in which artificial radiation is generated may replace the corn-fields or potato-patches of the world. Parks and gardens will cover our pastures and ploughed fields. When the time comes there will be plenty of room for the cities to spread themselves again.

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But equally startling developments lie already just beyond our finger-tips in the breeding of human beings, and the shaping of human nature. It used to be said, 'Though you have

taught the dog more tricks, you cannot alter the breed of the dog.' But that is no longer true. A few years ago London was surprised by a play called *Roosum's Universal Robots*. The production of such beings may well be possible within fifty years. They will not be made, but grown under glass. There seems little doubt that it will be possible to carry out in artificial surroundings the entire cycle which now leads to the birth of a child. Interference with the mental development of such beings, expert suggestion and treatment in the earlier years, would produce beings specialized to thought or toil. The production of creatures, for instance, which have admirable physical development with their mental endowment stunted in particular directions, is almost within the range of human power. A being might be produced capable of tending a machine but without other ambitions. Our minds recoil from such fearful eventualities, and the laws of a Christian civilization will prevent them. But might not lop-sided creatures of this type fit in well with the Communist doctrines of Russia? Might not the Union of Soviet Republics armed with all the power of science find it in harmony with all their aims to produce a race adapted to mechanical tasks and with no other ideas but to obey the Communist State? The present nature of man is tough and resilient. It casts up its sparks of genius in the darkest and most unexpected places. But Robots could be made to fit the grisly theories of Communism. There is nothing in the philosophy of Communists to prevent their creation.

I have touched upon this sphere only lightly, but with the purpose of pointing out that in a future which our children may live to see, powers will be in the hands of men altogether different from any by which human nature has been moulded. Explosive forces, energy, materials, machinery will be available upon a scale which can annihilate whole nations. Despotisms and tyrannies will be able to prescribe the lives and even the wishes of their subjects in a manner never known since time began. If to these tremendous and awful powers is added the pitiless sub-human wickedness which we now see embodied

in one of the most powerful reigning governments, who shall say that the world itself will not be wrecked, or indeed that it ought not to be wrecked? There are nightmares of the future from which a fortunate collision with some wandering star, reducing the earth to incandescent gas, might be a merciful deliverance.

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It is indeed a descent almost to the ridiculous to contemplate the impact of the tremendous and terrifying discoveries which are approaching upon the structure of Parliamentary institutions. How can we imagine the whole mass of the people being capable of deciding by votes at elections upon the right course to adopt amid these cataclysmic changes? Even now the Parliaments of every country have shown themselves quite inadequate to deal with the economic problems which dominate the affairs of every nation and of the world. Before these problems the claptrap of the hustings and the stunts of the newspapers wither and vanish away. Democracy as a guide or motive to progress has long been known to be incompetent. None of the legislative assemblies of the great modern states represents in universal suffrage even a fraction of the strength or wisdom of the community. Great nations are no longer led by their ablest men, or by those who know most about their immediate affairs, or even by those who have a coherent doctrine. Democratic governments drift along the line of least resistance, taking short views, paying their way with sops and doles and smoothing their path with pleasant-sounding platitudes. Never was there less continuity or design in their affairs, and yet towards them are coming swiftly changes which will revolutionize for good or ill not only the whole economic structure of the world but the social habits and moral outlook of every family. Only the Communists have a plan and a gospel. It is a plan fatal to personal freedom and a gospel founded upon Hate.

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Certain it is that while men are gathering knowledge and power with ever-increasing and measureless speed, their virtues and their wisdom have not shown any notable improvement as the centuries have rolled. The brain of a modern man does not differ in essentials from that of the human beings who fought and loved here millions of years ago. The nature of man has remained hitherto practically unchanged. Under sufficient stress,—starvation, terror, warlike passion, or even cold intellectual frenzy, the modern man we know so well will do the most terrible deeds, and his modern woman will back him up. At the present moment the civilizations of many different ages co-exist together in the world, and their representatives meet and converse. Englishmen, Frenchmen, or Americans with ideas abreast of the twentieth century do business with Indians or Chinese whose civilizations were crystallised several thousands of years ago. We have the spectacle of the powers and weapons of man far outstripping the march of his intelligence; we have the march of his intelligence proceeding far more rapidly than the development of his nobility. We may well find ourselves in the presence of 'the strength of civilization without its mercy.'

It is therefore above all things important that the moral philosophy and spiritual conceptions of men and nations should hold their own amid these formidable scientific evolutions. It would be much better to call a halt in material progress and discovery rather than to be mastered by our own apparatus and the forces which it directs. There are secrets too mysterious for man in his present state to know; secrets which once penetrated may be fatal to human happiness and glory. But the busy hands of the scientists are already fumbling with the keys of all the chambers hitherto forbidden to mankind. Without an equal growth of Mercy, Pity, Peace and Love, Science herself may destroy all that makes human life majestic and tolerable. There never was a time when the inherent virtue of human beings required more strong and confident expression in daily life; there never was a time when the hope of immortality and the disdain of earthly power and

achievement were more necessary for the safety of the children of men.

After all, this material progress, in itself so splendid, does not meet any of the real needs of the human race. I read a book the other day which traced the history of mankind from the birth of the solar system to its extinction. There were fifteen or sixteen races of men which in succession rose and fell over periods measured by tens of millions of years. In the end a race of beings was evolved which had mastered nature. A state was created whose citizens lived as long as they chose, enjoyed pleasures and sympathies incomparably wider than our own, navigated the inter-planetary spaces, could recall the panorama of the past and foresee the future. But what was the good of all that to them? What did they know more than we know about the answers to the simple questions which man has asked since the earliest dawn of reason—'Why are we here? What is the purpose of life? Whither are we going?' No material progress, even though it takes shapes we cannot now conceive, or however it may expand the faculties of man, can bring comfort to his soul. It is this fact, more wonderful than any that Science can reveal, which gives the best hope that all will be well. Projects undreamed of by past generations will absorb our immediate descendants; forces terrific and devastating will be in their hands; comforts, activities, amenities, pleasures will crowd upon them, but their hearts will ache, their lives will be barren, if they have not a vision above material things. And with the hopes and powers will come dangers out of all proportion to the growth of man's intellect, to the strength of his character or to the efficacy of his institutions. Once more the choice is offered between Blessing and Cursing. Never was the answer that will be given harder to foretell.